

## Claims

- [c1] What is claimed is:
1. A digital camera comprising:  
an image sensor system for providing  $n$  pixels of initial image information, each pixel having  $m$  bits of intensity information for only one color selected from a group of at least three component colors so that the initial image information comprises  $n \times m$  bits;  
a first compression system for compressing the  $n \times m$  bits of the initial image information into  $r$  bits of secondary image information, wherein  $r$  is less than  $n \times m$ ;  
a frame buffer of at least  $r$  bits for storing the secondary image information;  
a first decompression system for decompressing the  $r$  bits stored in the frame buffer to provide tertiary image information; and  
an image processing system for accepting the tertiary image information to generate processed image information comprising a plurality of pixels, each pixel of the processed image information providing intensity information for each color in the group of at least three component colors.
  - [c2] 2. The digital camera of claim 1 wherein the image information consists of  $n \times m$  bits.
  - [c3] 3. The digital camera of claim 2 wherein the tertiary image information consists of  $n \times m$  bits.
  - [c4] 4. The digital camera of claim 1 further comprising a line buffer for storing a plurality of lines of the tertiary image information and providing a block of serialized tertiary image information to the image processing system.
  - [c5] 5. The digital camera of claim 4 wherein the image sensor system is an interlaced sensor system, and the line buffer is used to de-interlace the tertiary image information.
  - [c6] 6. The digital camera of claim 4 further comprising a block-based lossy image compression system for compressing a block of processed image information to provide compressed image information to a permanent storage system of the

digital camera.

- [c7] 7. The digital camera of claim 6 wherein the block of serialized tertiary image information provided by the line buffer to the image processing system has corresponding pixel dimensions that are at least as large as pixel dimension requirements of the block-based lossy image compression system.
- [c8] 8. The digital camera of claim 4 further comprising a raster-based image compression system for compressing the processed image information to provide compressed image information to a permanent storage system of the digital camera.
- [c9] 9. The digital camera of claim 1 wherein the first image compression system utilizes a lossless compression algorithm so that the tertiary image information is identical to the initial image information.